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Effect of Temperature on Growth of the Zebra Mussel, *Dreissena Polymorpha*

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EFFECT OF TEMPERATURE ON GROWTH OF THE ZEBRA MUSSEL, *DREISSENA POLYMORPHA*

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Dreissena polymorpha (Pallas), zebra mussels, are recent invaders of North American freshwater systems. They have a high reproductive rate and settle in high densities which can clog water intake valves and pipes. Many studies investigating the use of heat as a control measure have examined the effects of high temperatures on zebra mussel mortality. Much less is known about the effect of temperature on the actual growth rate and development of zebra mussels. This study examined the growth rates of zebra mussels at 10°C, 20°C, and 25°C over two four-week periods in the laboratory. Mussels were placed in culture dishes (five similarly sized mussels per dish) and fed 100 ml of the algae *Chlorella pyrenoidosa* (Chick) daily at a concentration of 4.13×10^5 cells/ml. Shell length and shell height measurements were taken three times during the experiment. Although shell length is the measurement typically used in growth studies, it has not been documented whether shell length is a better growth indicator than shell height. Both shell length and shell height are currently being compared with tissue weight to see which is a more accurate measure of growth. The results of this analysis will then be used to determine what effect temperature has on the growth of the mussels. The findings of this study will be important because factors which reduce growth influence the longterm success of the zebra mussels and therefore should be useful as possible control methods. Also, scientists working with zebra mussels in the laboratory will find the results of this study useful in determining the best conditions in which to raise zebra mussels.